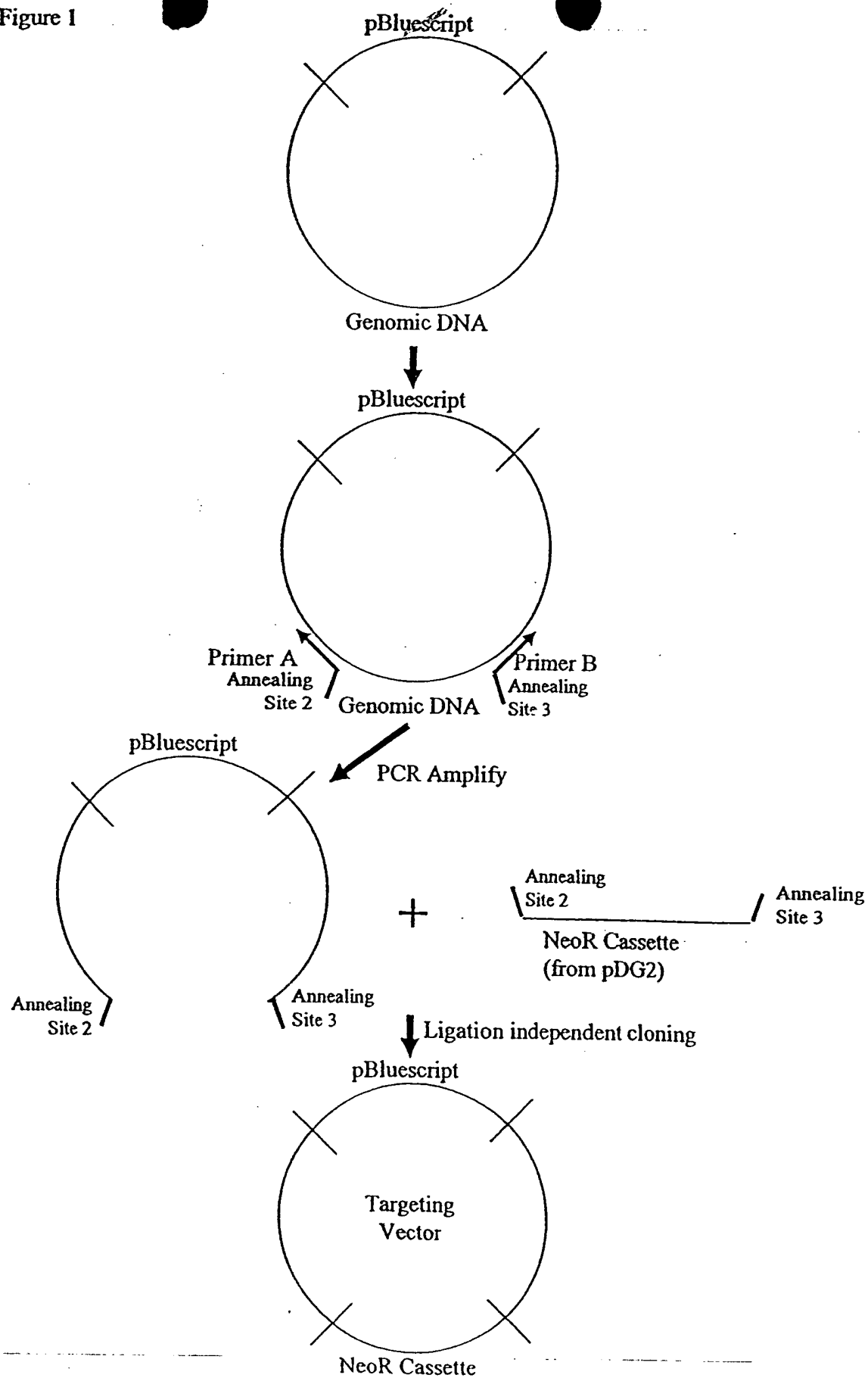


Figure 1



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102220" 0629T860

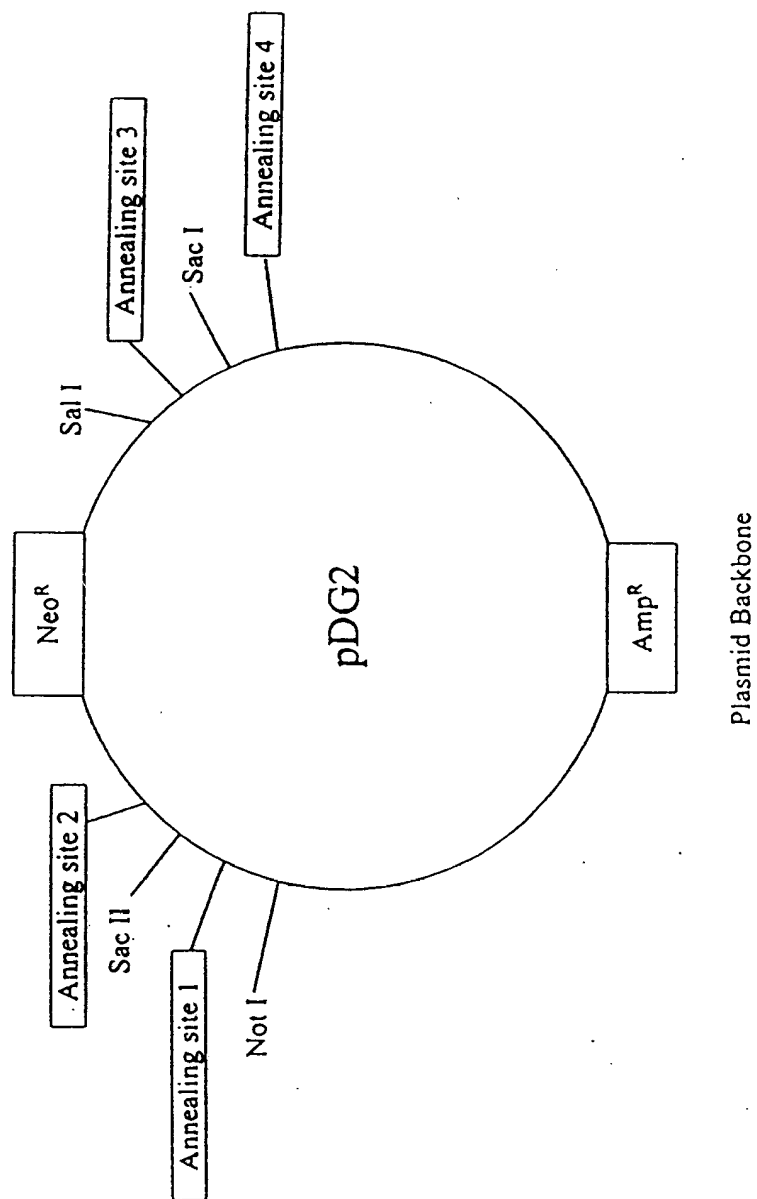


FIGURE 2A

FIGURE 2B

pDG2:

GTTAACTACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTGTTTTTTCTAAATACATTCAAATA  
TGTATCCGCTCATGAGACAATAACCTGATAAATGCTTCAATAATATTGAAAAGGAAGAGTATGAGTATTCAACATTTTC  
CGTGTGCGCCCTTATTCCTTTTTTTCGGGCATTTTGCTTCTGTTTTTGTCTACCCAGAAACGCTGGTGAAAGTAAAGA  
TGCTGAAGATCAGTTGGGTGACGAGTGGGTACATCGAACTGGATCTCAACAGCGGTAAAGTCTTGAGAGTTTTCGCC  
CCGAAGAACGTTCTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTGTGACGCCGGGCAA  
GAGCAACTCGGTGCGCGCATACACTATTCTCAGAATGACTTGGTTGAGTACTCACCAGTACAGAAAAGCATCTTACGGA  
TGGCATGACAGTAAGAGAATTATGCACTGCTGCCATAACCATGAGTGATAAACAATGCGGCCAACTTACTTCTGACAACGA  
TCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCAACATGCGGGATCATGTAACCTGCTTGTGAGTGGGAACCGGAG  
CTGAATGAAGCCATACCAAACGACGAGCGTGACACCAGATGCTGTAGCAATGGCAACAACGTTGCGCAAACTATTAAC  
TGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAATAGACTGGATGGAGCGGATAAAGTTGACGAGCACTTCTGC  
GCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATCTGGAGCGGTGAGCGTGGGTCTCGCGGTATCATTGCAGCA  
CTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAG  
ACAGATCGCTGAGATAGGTGCTCTGATTAAGCATTGGTAACTGTCAGACCAAGTTTACTCATATATACCTTTAGATTG  
ATTTACCCGGTTGATAATCAGAAAAGCCCCAAAAACAGGAAGATTGTATAAGCAATATTTAAATTGTAAACGTTAATA  
TTTTGTTAAATTCGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGCAAAATCCCTTAT  
AAATCAAAGAATAGCCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAGAACGTTGGACTC  
CAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCAAAATCAAGTTTTTGGGGT  
CGAGGTGCGGTAAAGCACTAAATCGGAACCTAAAGGGAGCCCCGATTTAGAGCTTGACGGGAAAGCGAACGTTGGCGA  
GAAAGGAAGGGAAGAAAGCGAAAGGAGCGGGCGTAGGGCGCTGGCAAGTGTAGCGGTACGCTGCGCGTAACCAACCA  
CCGCGCGCTTAATGCGCGCTACAGGGCGCGTAAAGGATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAAAA  
TCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTT  
CTGCGCGTAATCTGCTGCTTGCAAAACAAAAAACCCCGCTACCAGCGGTGGTTTTGTTGCGCGATCAAGAGCTACCAAC  
TCTTTTTTCGAAGGTAACCTGGCTTCAGCAGAGCGCAGATACCAAAATCTGTTCTCTAGTGTAGCCGTAGTTAGGCCACC  
ACTTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAG  
TCGTGTCTTACCGGGTTGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTGCGGCTGAACGGGGGGTTCGTGCAC  
ACAGCCAGCTTGGAGCGAACGACTACCCGAACCTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCAGCTTCCCG  
AAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCAGAGGGAGCTTCCAGGGGAAAC  
GCTGGTATCTTTATAGTCTGTGCGGTTTCGCCACCTCTGACTTGAGCGTCTGATTTTTTGTGATGCTCGTCAGGGGGCG  
GAGCCTATGGA AAAACGCCAGAACCGCGCTTTTTACGGTTCTTGCCCTTTTGCTGGCCTTTTGCTGCGCTTTTGCTCATATG  
AGTTAGCTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATA  
ACAATTTACACAGGAAACAGCTATGACCATGATTACGCCAAGCTACGTAATACGACTCACTAGGCGGCGCGTTTAAAC  
AATGTGCTCCTCTTTGGCTTGTCTCCGCGGGCCAGGCCAGACAAGAACAGTTGACGTCAAGCTTCCCGGGACGCGTCT  
AGCGCGCGCGGAATCTTGCAAGATTGAGGGCCCTTGCAAGTCAATTTACCGGGTAGGGGAGGCGCTTTTCCCAAGG  
CAGTCTGGAGCATGCGCTTAGCAGCCCGCTGCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT  
TCCACCGGTAGCGCAACCGGCTCGGTTCTTTGGTGGCCCTTCGCGCCACCTTCTACTCTCTCCCTAGTCAGGAAGTTC  
CCCCCGCCCCGAGCTCGCGTCTGTCAGGACGTGACAAATGGAAGTAGCAGTCTCACTAGTCTCGTGAGATGGACAG  
CACCGCTGAGCAATGGAAGCGGGTAGGCTTTGGGGCAGCGGCCAATAGCAGCTTTGCTCCTTCTGCTTTCTGGGCTCAGA  
GGCTGGGAAGGGGTGGGTCCGGGGCGGGCTCAGGGCGGGCTCAGGGCGGGCGGGCGGGAAGGTCTCCCGAGGCCC  
CAATATGGGATCGGCATTGAACAAGATGGATTGACGCGAGGTTCTCGGCGCTTGGGTGGAGAGGCTATTGCGCTATG  
ACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGCGGTGTTCCGGCTGTGAGCGAGGGGCGCCCGGTTCTTTTGTG  
AAGACCGACCTGTCCGGTGCCCTGAATGAAGTGAAGACGAGGAGCGCGGCTATCGTGGTGGCCAGGAGCGGCGTTCC  
TTGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGAAGGAGTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCC  
TGTCACTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCT  
ACCTGCCATTTCAGCACCAAGCGAAACATCGCATCGAGCGAGCAGTACTCGGATGGAAGCGGCTTGTCTGATCCAGGA  
TGATCTGGACGAAGAGCATCAGGGGCTCGCGCAGCGCAACTGTTCCCGAGGCTCAAGGCGCGCATGCCGACGCGATG  
ATCTCGTCTGACCCATGGCGATGCTGCTTGCCGAATATCATGGTGGAAAAATGGCCGCTTTTCTGGATTATCGACTGT  
GGCGGGCTGGGTGTTGGCGACCGCTATCAGGACATAGCGTTGGCTACCCGCTGATATTGCTGAAGAGCTTGGCGCGAATG  
GGCTGACCGCTTCTCGTCTTTACGGTATCGCGCTCCCGATTGCGAGCGCATCGCTTCTATCGCTTCTTGACGAGT  
TCTTCTGAGGGGATCGATCCGCTCTGTAAGTCTGCAGAAATTGATGATCTATTAACAATAAAGATGTCACATAAAATGG  
AAGTTTTCTCTGCTACACTTTGTTAAGAAGGGTGAGAACAGAGTACCTACATTTTGAATGGAAGGATTGGAGTACCGGG  
GTGGGGGTGGGGTGGGATTAGATAAATGCTGCTCTTTACTGAAGGCTCTTTACTATTGCTTTATGATAATGTTTCATAG  
TTGGATATCATAATTTAAACAAGCAAAACCAATTAAGGGCCAGCTATTCTCCCACTCATGATCTATAGATCTATAGA  
TCTCTCGTGGGATCATTGTTTTCTTGTATTCCCACTTTGTGGTTCTAAGTACTGTGGTTTCCAAATGTGTCAGTTTCA  
TAGCCTGAAGAACGAGATCAGCAGCCTCTGTTCCACATACACTTCATTCTCAGTATTGTTTTGCCAAGTTCTAATTCAT  
CAGAAGCTGACTCTAGATCTGGATCCGGCCAGCTAGGCGCTGACCTCGAGTGATCAGGTACCAAGTCTCTCGCTCTGTG  
TCCGTTGAGCTCGACGACACAGGACACGCAAAATTAATTAAGGCCGGCCGTAACCTCTAGTCAAGGCCCTAAGTGAGTCTG  
TATTACGAGTGGCGCTGTTTTACAACGTCGTGACTGGGAAACCTTGGCGTTACCCAACCTAATCGCTTGCAGCA  
TCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCG  
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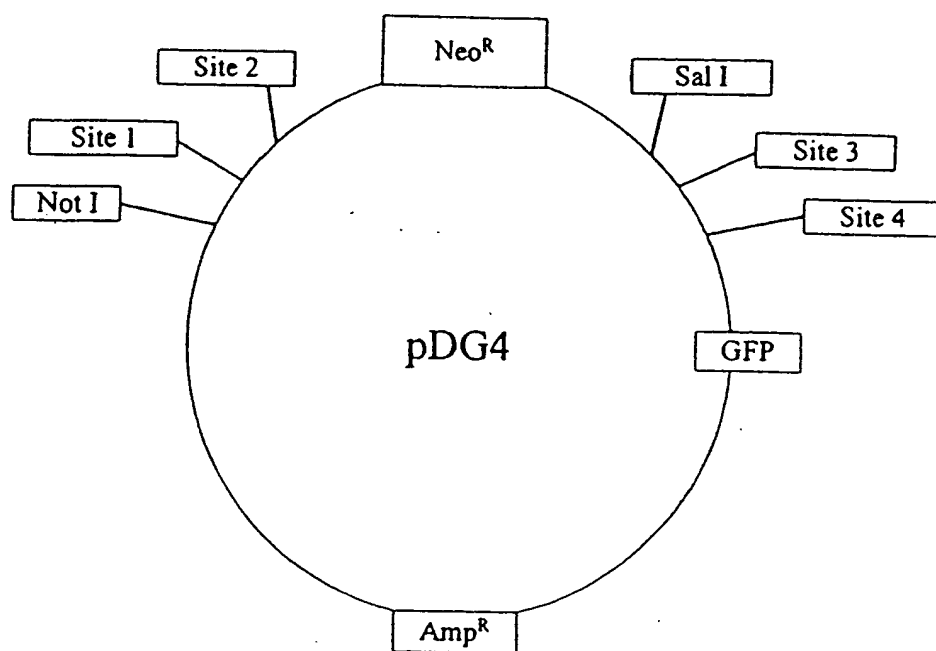


FIGURE 3A

FIGURE 3B

pDG4:

GTTTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCGCGTTACATAAATTACGGTAAATGG  
 CCGCCTGGCTGACCGCCCAACGACCCCGCCCATTTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGA  
 CTTTCCAATGACGTCAATGGGTGGAGTATTTACGGTAACTGTCCTTGGCAGTACATCAAGTGTATCATATGCCAAGT  
 ACGCCCCCTATTGACGTCAATGACGGAATGGCCCGCTGGCATTAAAGCCAGTACATGACCTTATGGGACTTTCCTAC  
 TTGGCAGTACATCTACGTATTAGTTCATCGCTATTACCATGGTGATGCGGTTTTGGCAGTACATCAATGGGCGTGGATAGC  
 GGTGTGACTCAGGGGATTTCCAAGTCTCCACCCATTGACGTCAATGGGAGTTGTTTGGCACCAGAAATCAACGGGAC  
 TTTCCAAATGTGTAACAACTCCGCCCATTTGACGCAATGGGCGGTAGGCGGTACGCTGGGAGGTCTATATAAGCAG  
 AGCTGGTTTAGTGAAACCGTCAGATCCGCTAGCGCTACCGGTGCGCCCATGGTGAGCAAGGGCGAGGAGCTGTTACCGG  
 GGTGGTGGCCATCTGGTGGAGCTGGACGGCGAGTAAACGGCCACAAGTTACGCGTGTCCGCGGAGGGCGAGGGCGATG  
 CCACCTACGGCAAGCTGACCTGAAGTTCATCTGCACCAACGGCAAGCTGCCGTGCCCTGGCCACCTCGTGACCACC  
 CTGACCTACGGCGTGCGAGTGTTCAGCGCTACCCCGACCATGAAGCAGCAGCACTTCTTCAAGTCCGCCATGCCGGA  
 AGGCTACGTCAGGAGCGCACCATCTTCTCAAGGACGACGGCAACTACAAGCCCGCGGAGGTGAAGTTCCGAGGGCG  
 ACACCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCTGGGGCACAAGCTGGAGTAC  
 AACTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAAGTTCAGATCCGCCACAA  
 CATCGAGGACGGCAGCGTGACGTGCGCGACCACTACAGCAGAACCCCCCATCGGCGACGGCCCCGTGCTGCTGCCCG  
 ACAACCACTACCTGAGGACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGGATCAGTGGTCTGCTGGAGTTC  
 GTGACCGCGCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTCCGACTCAGATCCACGGATAGATAAAGTATGAT  
 CATAATCAGCCATACCACTTTGTAGAGGTTTACTTGCTTTAAAAAACCTCCACACCTCCCCCTGAACCTGAAAACATA  
 AAATGAATGCAATTGTTGTTGTTAACTTGTATTGTCAGCTTATAATGGTTACAAATAAAGCAATAGCATCACAAATTTT  
 ACAATAAAGCATTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAACTCATCAATGTATCTTAACGGGAAGTACGTCA  
 GGTGGCACTTTTTCGGGGAATGTGCGCGGAACCCCTATTGTTTATTCTAAATACATTCAATATGTATCCGCTCAT  
 GAGACAATAACCTGATAAATGCTTCAATAATTGAAAAAGGAAGAGTATGAGTATTCAACATTTCCGTGTCGCCCTTA  
 TTCCCTTTTTTGGCGCATTTTGCCTTCTGTTTGTGCTCACCAGAAACGCTGGTGAAGTAAAGATGCTGAAGATCAG  
 TTGGGTGCAGCAGTGGGTTACATCGAAGTGGATCTCAACAGCGTGAAGATCTTGAAGTTTTCCGCCGAAGAACGTTT  
 TCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGTATTATCCGTTTGAAGCGGGCAAGAGCAACTCGGTC  
 GCGCATACACTATTCTCAGAACTGACTGGTTGAGTACTCACCAGTACAGAAAAGCATCTTACGGATGGCATGACAGTA  
 AGAGAATTATGAGTGCTGCCATAACCATGAGTGATAACTGCGGCCAACTTACTTCTGACAACGATCGGAGGACCGAA  
 GGAGCTAACCGCTTTTTTGCAACAATGGGGATCATGTAACTGCGCTGATCGTTGGGAACCGAGGTGAATGAAGCCA  
 TACCAAAACGACGAGCGTGACACCAAGATGCTGTAGCAATGGCAACAGTTCGCGCAAACTATTAAGTGGCGAACTACTT  
 ACTCTAGCTTCCCGGCAACAATTAATAGACTGGATGGAGGCGGATAAAGTTGAGGACCACTTCTGCGCTCGGCCCTTCC  
 GGCTGGCTGGTTTTATGCTGATAAATCTGGAGCGGTGAGCGTGGGTCTCGCGTATCATTTGAGCACTGGGGCCAGATG  
 GTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGAGTCAAGCAACTATGGATGAACGAAATAGACAGATCGCTGAG  
 ATAGGTGCTCTAGTAAAGCATTGGTAAGTGTGAGCAAGTTTACTCATATATTTAGATTGATTTACCCGGGTT  
 GATAATCAGAAAAGCCCCAAAACAGGAAGATTGTATAAGCAATATTAAATTTGTAACGTTAATAATTTGTTAAAAAT  
 CGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAGGCGGAATCGGCAAAATCCCTTATAAATCAAAAGAA  
 AGCCCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAAACAGAGTCCACTATTAAAGAACGTTGAGTCCAAACGTCAGAGGG  
 CGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCCAATCAAGTTTTTGGGGTCGAGGTGCCGTAA  
 AGCACTAAATCGGAACCTTAAAGGGAGCCCCGATTTAGAGCTTGACGGGGAAGCGAACCTGGCGAGAAAGGAAGGGA  
 GAAAGCGAAAGGAGCGGGCGTAGGGCGTGGCAAGTGTAGCGGTACGCTGCGGCAACCAACCGCGCGGCTTA  
 ATGCGCGCTACAGGGCGCGTAAAAGGATCTAGGTGAAGATCTTTTTGATAATCTCATGACCAAAATCCCTTAACGTGA  
 GTTTTCGTTCCACTGAGCGTCAGACCCGCTAGAAAAGATCAAAGGATCTTCTGAGATCTTTTTTCTGCGGTAATCT  
 GGTGCTTGCAACAAAAAACACCGCTACCAGCGGTGTTGTTTGGCGGATCAAGAGCTACCAACTCTTTTTCCGAAG  
 GTAAGTGGCTTCAGCAGAGCGCAGATACCAAACTGTTCTTCTAGTGTAGCGGTAGTTAGGCCACCACTTCAAGAACTC  
 TGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACAGTGGCTGCTGCCAGTGGCGATAAGTCTGTCTTACCG  
 GGTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGTCCGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTG  
 GAGCGAACGACCTACACCGAAGTACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGGC  
 GGACAGGTATCCGGTAAGCGGCGAGGTGCGAACAGGAGAGCGCAGGAGGAGCTTCAGGGGGAACGCGCTGATCTTT  
 ATAGTCTGTGCGGTTTCCGCACTCTGACTTGAGCGTGCATTTTGTGATGCTCGTCAAGGGGGCGGAGCCTATGGAAA  
 AACGCCAGCAACGCGGCTTTTTACGGTTCTTGGCTTTTGTGCTGCTCATGTAAATGTGAGTTAGCTCACTC  
 ATTAGGCACCCAGGCTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAAATTTACACA  
 GGAACAGCTATGACCATGATTACGCCAAGCTACGTAATACGACTCACTAGGCGGCGGCTTTAAACAATGTGCTCCTCT  
 TTGGCTTGTCTCCGCGGCGCAAGCCAGACAAGAACAGTTGACGTCAAGCTTCCCGGACGCGTGTAGCGGCGGCGGA  
 ATTCTGCGAGGATTCGAGGGCCCCGTCAGGTCAATTCTACCGGTAGGGGAGGCGCTTTTCCCAAGGCAGTCTGGAGCAT  
 GCGCTTTAGCAGCCCCGCTGGCACTTGGCGCTACACAAGTGGCCTCTGGCTCGCACACATTCCACATCCACCGGTAGCG  
 CCAACCGGCTCCGTTCTTTGGTGGCCCCCTTCGCGCCACCTTCTACTCTCCCTAGTCAAGAGTTCCCCCGGCGCGG  
 AGCTCGCGTCTGTCAGGACGTGACAAATGGAAGTAGCAGCTCACTAGTCTCGTGAGATGGACAGCACCGCTGAGCAA  
 TGGAAAGCGGTAGGCTTTGGGGCAGCGGCAATAGCAGCTATTGCTCTTCTGCTTCTGGGCTCAGAGGCTGGGAAGGGG  
 TGGGTCCGGGGCGGGCTCAGGGGCGGGCTCAGGGGCGGGCGGGCGGAAGGTCTCCGAGGCGCGGCTTCTCGCAC  
 GCTTCAAAAGCGCAGCTGCGCGCGTGTCTCTCTCTCTCATCTCCGGGCTTTTCGACCTGCAGCCAATATGGGATCG  
 GCCATTGAACAGATGGATTGCAGCAGGTTCTCCGGCGCTTGGGTGGAGAGGCTATTCCGCTATGATGGGCACAACA  
 GACAAATCGGCTGCTCTGATGCGCGGTGTTCCGGCTGTCAGCGCAGGGCGCGGCTTCTTTGTCAAGACCGAGCTGT  
 CCGGTGCCCTGAATGAAGTGCAGGACGAGGCGCGCTATCGTGCTGGCCACGAGCGGCTTCTTGGCGAGCTGTG  
 CTCGACGTTGCTACTGAAGCGGGAAGGACTGGCTGCTATTGGGCGAAGTGCGGGGCGAGATCTCTGTCTCATCTCACT

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TGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCC  
 ACCACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTGATCAGGATGATCTGGACGAA  
 GAGCATCAGGGGCTCGCGCCAGCCGAACCTGTTGCCAGGCTCAAGGCGCGCATGCCGACGGCGATGATCTCGTCGTGAC  
 CCATGGCGATGCTGCTTGCCGAATATCATGGTGGAAAATGGCCGCTTTTCTGGATTATCGACTGTGGCCGGCTGGGTG  
 TGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTC  
 CTGCTGCTTTACGGTATCGCCGCTCCCGATTGCGAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGGGGA  
 TCGATCCGTCTGTAAAGTCTGCAGAAATTGATGATCTATTAACAATAAAGATGTCCACTAAAATGGAAGTTTTCCTGT  
 CATACTTGTGAAGAGGGTGAGAACAGAGTACCTACATTTGAATGGAAGGATTGGAGCTACGGGGGTGGGGGTGGGGT  
 GGGATTAGATAAATGCCTGCTCTTTACTGAAGGCTCTTTACTATTGCTTTATGATAATGTTTCATAGTTGGATATCATAA  
 TTAAACAAGCAAAACCAAAATTAAGGGCCAGCTCATTCTCCCACTCATGATCTATAGATCTATAGATCTCTCGTGGGAT  
 CATTGTTTTCTCTTGATTCCCACTTGTGGTTCTAAGTACTGTGGTTTCCAAATGTGTCAGTTTCATAGCCTGAAGAAC  
 GAGATCAGCAGCCTCTGTTCCACATACACTTCATTCTCAGTATTGTTTTGCCAAGTTCTAATTCATCAGAAGCTGACTC  
 TAGATCTGGATCCGGCCAGCTAGGCCGTGACCTCGAGTGATCAGGTACCAAGGTCCTCGCTCTGTGTCGGTTGAGCTCG  
 ACGACACAGGACACGCAAAATTAATTAAGGCGGCCCCGTACCCTCTAGTCAAGGCCTTAAGTGAGTCGTATTACGGACTGG  
 CCGTCGTTTTACAACGTCGTGACTGGGAAAAACCTGGCGTTACCCAACTTAATCGCCTTGACGACATCCCCCTTTGCC  
 AGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTCGC  
 TTGGTAATAAGCCCGCTTCGGCGGGCTTTTTTTT

FIGURE 3B (Continued)

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Annealing site	Sequence	Sequence after digestion
1	5' tgtgctcctctttggcttgcttccaa... 3' 3' acacgaggagaaaccgaacgaaggtt... 5'	5' tgtgctcctctttggcttgcttccaa... 3' 3' tt... 5'
2	5' ctgggttcttctgtgcttggtcccaa... 3' 3' gaccaagaacagaccgaaccgggtt... 5'	5' ctgggttcttctgtgcttggtcccaa... 3' 3' tt... 5'
3	5' ggtcctcgctctgtgtccgttgaa... 3' 3' ccaggagcgagacacacaggcaactt... 5'	5' ggtcctcgctctgtgtccgttgaa... 3' 3' tt... 5'
4	5' ttgctgtgtcctgtgtcgtcgaa... 3' 3' aaacgcacaggacacagcagctt... 5'	5' ttgctgtgtcctgtgtcgtcgaa... 3' 3' tt... 5'

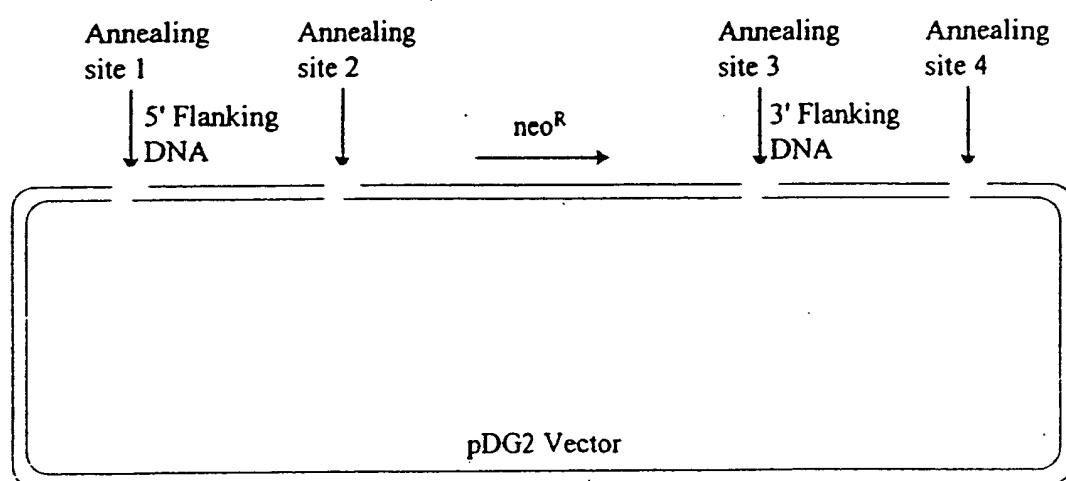
FIGURE 4

Annealing site	Sequence	Sequence after digestion
1	5' AAtgtgtcctcttcttggcttgcctccgc 3' 3' Ttacacgaggagaaaccgaacgaagg 5'	5' AA 3' Ttacacgaggagaaaccgaacgaagg 5'
2	5' AActgggttcttgcctggcctggccgc 3' 3' Ttgaccaagaacagaccgaaccggg 5'	5' AA 3' Ttgaccaagaacagaccgaaccggg 5'
3	5' AAggtcctcgtctgtgtccgttgagct 3' 3' Ttccaggagcgagacacagggaac 5'	5' AA 3' Ttccaggagcgagacacagggaac 5'
4	5' AAtttgcgtgtcctgtgtcgtcgagct 3' 3' Ttaaacgcacaggacacagcagc 5'	5' AA 3' Ttaaacgcacaggacacagcagc 5'

FIGURE 5

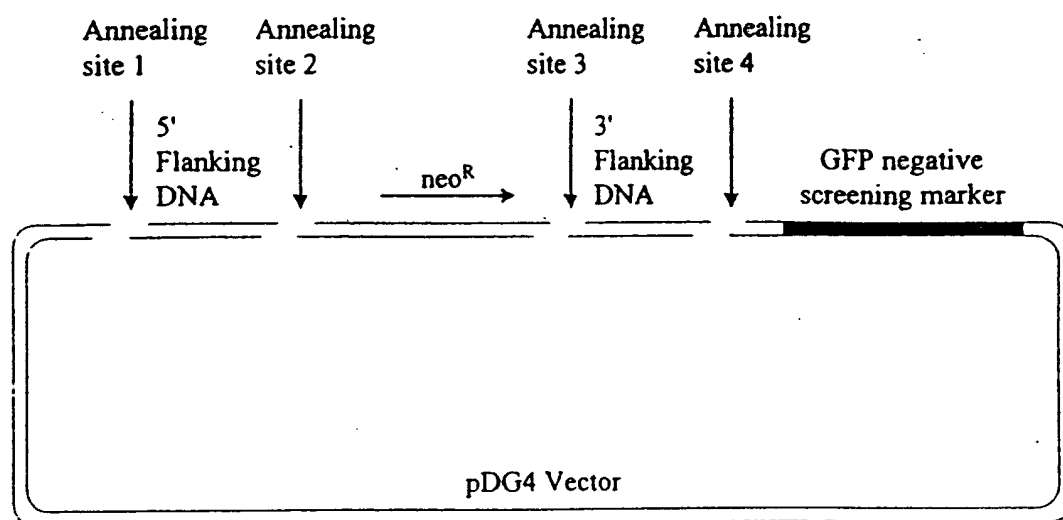


FIGURE 6



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FIGURE 7



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TCCCCACATTGCAAAGCCTACACAAAGATCCCTACCACTGAGCACCGAGGGAGGCATGGCTCAGAACCCC  
 AGCAACATGGAGCCCTTGCGTAAACCACTGGTGCCTGTGAAGGGAATCCCACTCATCAAATACTTTGCGG  
 AGACAATGGAGCAACTGCAGAACTTCACAGCCTGGCCTGATGATGTGCTCATCAGCACGTACCCAAAGTC  
 TGGTACTAACTGGATGAGTGAGATCATGGATATGATCTATCAGGGTGGCAAGCTAGATAAGTGTGGCCGG  
 GCCCCCGTCTATGCCCCGATACCCCTTCCTTGAGTTCAGCTGCCCAGGGGTCCCCCAGGTCTTGAAACTC  
 TGAAAGAGACACCAGCCCCACGGATCATTAAAGACACATCTGCCCTTGTCCTTACTCCCTCAGAGTCTGCT  
 GGATCAAAAGATCAAGGTGATCTACGTTGCCCGAAATGCAAAGGATGTGGTTGTCTCCTATTATAACTTC  
 TACAAAATGGCCAAGCTGCACCCTGACCCAGGCACCTGGGAAAGCTTCTTGAGAACTTCATGGATGGGA  
 AAGTGTCTTATGGGTCTGGTACCAGCACGTGAAGGAGTGGTGGGAGCTGAGACGCACTCACCTGTTCT  
 CTATCTCTTCTATGAAGACATGAAGGAGAATCCCAAAGGGAGATCAAGAAGATTCTAGAGTTTCTGGGG  
 CGCTCTCTACCTGAGGAGACTGTGGATTTAATTGTTTACCACACATCCTTCAAGAAAATGAAGGAGAACC  
 CCATGGCTAACTACACAACCATCCCACTGAAGTTATGGACCACACTATTTATCCCTTCATGAGGAAAGG  
 TACCATTGGGGACTGGAAAAATACCTTCACTGTAGCCAGAGTGAGCACTTTGATGCCCACTATGCCAAG  
 CTAATGACAGGTTGTGACTTCACGTTCCGCTGTCAAATATGAATTGTGGATATGGCTATACTGGGAACCA  
 AGGCAAGCTGACACATCCCCATCATGATCTCAAGAGAAAAATGTGATGTGTTTCAATTTGTTGTATGCCT  
 AAAGGAAATCTGAGCTAAGAGAATAGGACTGGGATGTAGCTGAGGCAGAGGGTCTTATGAACATGTCAGG  
 AAAGCCATCAGTCTAACACTGAAAAAGAACCTAAAGTACAAACATGCAAAAATAGTAAGATAAACTGTA  
 TTTTACCTGAACAAATAAATGCCACTGGGAGCTGACTGG

(SEQ ID NO: 19 )

**Targeting Vector (5' arm; 200 bp flanking neo insert):**

AGAACCCTGCCCTACTCCACCTCCTCCCTTTTTGTTTCTGGAGAACAGCCAGTCCTAG  
 CACTGTTTCCACTTCCTCCCACTTGGGACACAAAATCTCCAGCTCAAAGACCAATTCTG  
 CATTCCCCACATTGCAAAGCCTACACAAAGATCCCTACCACTGAGCACCGAGGGAGG  
 CATGGCTCAGAACCCAGCAACATG

(SEQ ID NO: 20)

**Targeting Vector (3' arm; 200 bp flanking neo insert):**

AGGGTGGCAAGCTAGATAAGTGTGGCCGGGGCCCCCGTCTATGCCCGGATACCCCTCC  
 TTGAGTTCAGCTGCCCAGGGGTCCCCCAGGTATGTGCATGGGGGTGCTAGAGACAA  
 GTGGAAAAAGGTAGGACCGGGCCCCAGTTTAAACAAAGTTCTTGTTCAACTTAGGTCT  
 TGAAACTCTGAAAGAGACACCAGCCCCA

(SEQ ID NO: 21 )

FIG. 8